NORTH CAROLINA LAPIDARY SOCIETY

May 1983



MEETINGS: SUNDAY
Third Entracty each month.
GEMCRAFTERS
2106 Patterson St.
Greensboro, NC 27407



MEETING DATE: May 15, 1983

TIME

: 2:30 PM

PLACE

GEMCRAFTERS

2106 Patterson St. Greensboro, NC

PROGRAM

: MERRILL SNYDER will discuss cabochon

cutting and will demonstrate his portable

sphere cutting machine.

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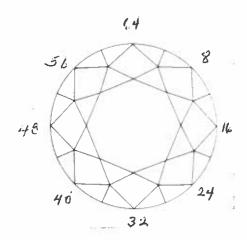
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FACETING PITFALLS

by Roy N. Greene

The standard old brilliant, while fine for such deep colored stones as garnet, peridot or sapphire, can be a disaster when applied to pale stones such as aquamarine. Where you want to keep all possible color it should be avoided. The brilliant cut is just what it says, brilliant! It will effectively reduce the apparent depth of color. If you want to prove it, cut two stones from the same piece of light color material - one a standard, 57 facet brilliant and the other as follows:



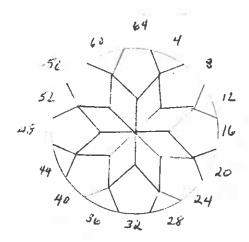


Figure 1.

Cut a standard brilliant crown according to your favorite angles and cut the pavilion as follows:

You'll notice I've used a commercial cut with only one break facet. If you like, split it by raising the angle to about 65 degrees and cutting 62, 02 etc. It'll make a noticeable difference only in that the girdle will be more even.

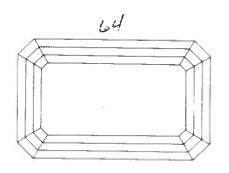
Now, compare the two stones and notice how much the cut of Figure 1 improves the color. The improved color, in the case of aquamarine, can double the per carat value of the stone and it weighs more!

Highly dichroic minerals, those which show different colors when viewed from various angles, present a definite challenge when cutting round stones. Most tourmaline rough available to us at reasonable prices may have a nice color when viewed from the side. Looking into the end of the crystal ("C" axis) however we get an unattractive olive or black. Cutting this material into a standard round brilliant is definitely a disaster. You end up with a disagreeable olive tint in the first case and a very dark lifeless stone in the second.

Where a round tourmaline is required, I've had limited success by using the pavilion cut shown in Figure 1, changing only the 42° facets to 39° for tourmaline.

Let's go a little farther with tourmaline. If you want to cut ovals or emerald shapes, look first at some commercially cut stones. You'll find that the facets near and on the ends are at extremely high angles. This is to prevent reflecting the dark "C" axis color to the crown. It makes the stones very difficult to set, but we can't have everything.

If you have two similar small pieces of dark green tourmaline, let's try cutting two stones again - one a standard "cook book" emerald cut, the other with the standard crown and a pavilion as follows:



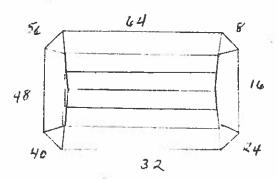


Figure 2.

	Pavilion					
53°	64,	32				
46°		11				
39°	•	1				
80°	08,	16,	24,	40,	48,	56
75°	16,	48				
70°	16,	48				

Note the extremely high angles used on the ends and the single facet at the corners. Now compare the two stones. Which do you prefer?

The above exercise is an attempt to prove a point. Simply, that is, all facet designs are not appropriate for all materials. Think carefully before you cut that expensive rough into round brilliants!

<u>DON'T FEAR CRITICISM</u> - The galleries are full of critics; they play no ball; they fight no fights. They make no mistakes because they attempt nothing. Down in the arena are the doers. They make mistakes because they attempt many things. The man who makes no mistakes lacks boldness and the spirit of adventure. He is the one who never tries anything. He is the brake on the wheel of progress, and yet it cannot be truly said that he makes no mistakes, because the biggest mistake he makes is that he tries nothing and does nothing except criticize those who do things.

from The Thumblicker via The Anclote Scoop with thanks.

SEATTLE FACETOR DESIGN

Design by NORMAN W STEELE

MARCH

1983

64 INDEX

STRAIGHT EDGE

STEP

DESIGN ANGLE

BEARING INDEX

41.0

43.0

PAVILION CUTTING INSTRUCTIONS

P1 P2

39.0 4.6

41.0 46.6

42.0

53-11-43-21 51-13-45-19 61-03-35-29

59-05-37-27

Cut

to centerpoint

Cut to centerpoint

Cut to centerpoint

Cut

to centerpoint

47.6

64 V (h 0

00

P7

P6

90.0 90.0

90.0 90.0 45.3

> 63-01-33-31 63-01-33-31

59-05-37-27

Meet P1, P3, P4, P5

Level girdle

Meet P2,P3,P6

Meet P1,P3 at girdle

2.43

Depth

52.3 90.0 90.0 90.0 41.3

43.4 90.0 90.0

49-47-17-15

53-11-43-2

49-47-17-15

Meet P2,P7,P8

Meet P2,P7 at

girdle

Percent of width

4.4 90.0

DESIGN ANGLE CROWN CUTTING INSTRUCTIONS 37.0 42.0

STE

133

BEARING INDEX

42.0 47.1 47.1 36.7 49-47-17-15 63-01-33-31 49-47-17-15 59-37-27-05 53-43-21-11 56-40-24-08 Meet C1, C2, C3, C4 Meet at centerpoint Meet C1, C2, C3, C4, Match pavilion girdle Match pavilion girdle Match pavilion girdle

222222

35.0 40.0 35.0

37.0

42.0 42.0

37.0

42.0

63-01-31-33

Match pavilion girdle

30.1

30.1

32.0 32.0

and they will eventually be part of the CUSHION RECTANGLE Alternate CROWNS and PAVILION TABLES. Outline for 8.036 is exactly the same as 8.034 (Super Cushion This makes the Pavilions and Crowns interchangeable

Percent of width

3

Rectangle).

Height

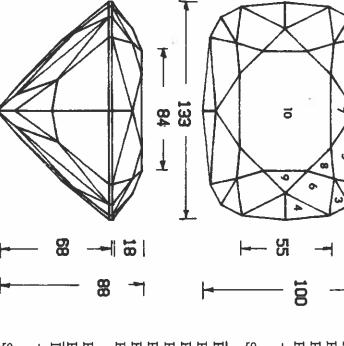
fixed by the previously cut facets. have no formal Table and can be cut with a pure MEETPOINT sequence. Only the final facet on the Crown is not firmly 8.036 Straight Edge is also a representative of designs which six equally spaced bars across the width of the stone. The intention is to have

Page 4 3

SEATTLE FACETOR

NEW DESIGN

8, Ø34 SUPER CUSHION RECTANGL



Design by ROBERT H LONG

64 INDEX

L/W 1.33

																										J					in			
See also	C10	с9	C8	c7	66	S	40	G	Ω2 2	<u>C</u>	STEP		Depth	P9	P8		P7	P6	P5	P4	P3	P2	P1	STEP		PF8	PF7	PFS	PFS	PF4	PF3	PFZ	PFI	7
o note	0.0	20.6	19.3	19.6	29.0	35.0	35.5	31.9	36.0	55.6	DESIGN 35.0	CROWN	58.8	40.0	41.5				41.0	46.2	43.0	51.1	64.0	DESIGN	PAVILION	90.0	90.0	90.0	90.0	36.1	35.0	39.2	41.2	ANI-I.P.
with		•	20.6	21.0	30.9	37.0	37.5	33.8	38.0	57.5	N ANGLE 37.0	CUTTING	63.1	42.0	•		41.0	43. 8.	43.0	48.3	45.0	53.1	65.6	V ANGLE	- 1									
8.036 S	0.0	25.8	24.2	24.6	35.5	42.0	32.5	38.7	43.0	61.9	£ 42.0		67.7	0.44	45.5	,	43.0	45.8	45.0	50.2	47.0	55.0	•	¥3.0	CUTTING I									
STRAIGHT EDGE on]	Any	48-16	56-08-40-24	64-32	51-13-35-19	61-03-35-29	49-47-17-15	53-11-43-21	59-05-37-27	63-01-33-31	BEARING INDEX	INSTRUCTIONS	! ! ! ! ! ! ! ! ! ! ! ! ! !	50-46-18-14	62-02-34-30	28-20-12-04	60-52-44-36	56-40-24-08	54-42-22-10	49-47-17-15	53-43-21-11	59-37-27-05	63-01-33-31	BEARING INDEX	(D)	49-47-17-15	53-43-21-11	59-05-37-27	63-01-31-33	49-47-17-15	53-43-21-11	59-37-27-05	63-01-33-31	
page 4	acet		Meet C2,C3,C5,C6		at	(1	Le	Level girdle	Level girdle girdle	Match pavilion; level	REMARKS		Percent of width	Meet P3,P4,P5,P7	Meet P1,P2,P6,P7	erpoint	Meet P3,P4,P5, and		M	•		Level girdle	Level final girdle	REMARKS	9	Level temp girdle	Level temp girdle		Level temp girdle	*		t at centerpoi	Cut PF1 thru PF4 to	

NICKEL SILVER

--- by Lee Roberts, The Glacial Drifter, 9/78

In the second decade of the 19th century, a German inventor in the city of Hildberghausen produced a metal known as nickel silver. It is a non-ferrous metal which consists of nickel, copper, and zinc, with the nickel content being anywhere from 6% to 18%, the latter being the finest jewelry grade. This is the grade in which the rockhounds are interested.

"German Silver" became so popular that the manufacturing of it spread to the United States. By 1850 the Indian tribes were making extensive use of it for ornamenting their clothing and saddles as well as for personal adornment. They found it so durable and beautiful, so practical, inexpensive and available, that their finest craftsmen like to use it even today. Nickel silver proved so adaptable to so many different styles of jewelry, so many different craftsmen and such simple tools, that the use of it was assured as far as the Indians are concerned.

Until the sharp rise in the price of silver and gold, nickel silver was neither known nor used by rock hobbyists. Classes have been taught for years on the subject of gold and silver, but nickel silver was not mentioned. Consequently, rockhounds interested in the art of metalcraft have not had the opportunity to use it in their projects until recently. Even now, there are many misconceptions and lack of knowledge about nickel silver. For example, there is the belief that this metal tarnishes quickly and so cannot be used in jewelry. This is simpley not true of 18% nickel silver. It needs to be pointed out, however, that there are some people who cannot wear any type of metal jewelry, be it platinum, gold, silver or nickel silver, without the metal tarnishing. This is not the general rule, however,

Another popular misconception is that nickel silver is difficult to solder. The problem in this respect seems to be that the person doing the soldering has not used a hot enough flame. The melting point of nickel silver is 2030 F, which is considerably higher that the 1640 F of sterling silver. This is why it requires more heat from the torch. This also guards it against being burned during the soldering process.

The toughness of nivkel silver is also a point in its favor. Anyone who has spent hours removing scratches and polishing silver appreciates this quality. Nickel silver is an "everyday" metal that can really take every day wear with a minimum of upkeep.

Nickel silver can be soldered with silver solder. After cleaning the piece to be soldered and the solder itself, apply a self-pickling flux to both. Place the snippets of solder on the joints to be soldered and apply the torch to the work with a slightly hotter flame than that used for silver, heating the larger piece first. Allow the finished piece to cool slightly, then pickle in Sparex as usual. After pickling, polish to a high luster.

This metal adapts itself particularly well to stamping and holds the design far longer than silver without blurring with wear. Since nickel silver is tougher, the stamping must be done with a heavier hammer. We use a 16-ounce ball peen. This provides plenty of weight to stamping the design without tiring the arm. Like all metals, nickel silver work hardens abd must be annealed from time to time as you work it. The term "anneal"

ADAM J. GRZYB 6852 Jonquil Terr. Wiles, IL 60648

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NICKEL SILVER , con't.

simply means restoring the maximum malleability to the metal by heating it, then allowing it to cool. Nickel silver requires heating to a cherry red color then plunging into cold water.

This durable metal has a beauty all its own and has earned a place in a list of jewelry metals craftsmen love to work.

from LOWCOUNTRY DIGGINGS -

SAPPHIRE EXCHANGE CLUB FORMED -

No, not a club to exchange sapphires. A club to exchange information, parts and supplies for the Sapphire Faceting Machine. Now that Sapphires are no longer being manufactured, Samuel F. Kautz writes as follows:

"It seems to me that there should be some central source of information for supplies etc. for the Sapphire machine. I know there are several thousand users out there, somewhere, who could use such a service. Therefore I am organizing the -

Sapphire Exchange Club 740 New London Rd. Hamilton, OH 45013

The purpose is to register present Sapphire owners and operators and put the "have nots" in touch with the "haves". There will be no charge for this as all I am doing is passing on information and they can work out their own deals."

Glad to help, Sam. Good luck. TJR.